AMENDMENTS FOR THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.   (Currently Amended) An apparatus for encoding realtime and non-realtime interactive program guide (IPG) content comprising video content and guide data contents, the apparatus comprising:

a non-realtime encoder configured to encode non-realtime content into encoded non-realtime content slices;

a realtime encoder configured to encode the realtime content into encoded realtime content slices;

a remultiplexer configured to repacketize the encoded non-realtime content slices and the encoded realtime content slices into transport packets;

a slice combiner coupled to the realtime and non-realtime encoders and the remultiplexer, the slice combiner configured to combine slices of encoded realtime video content with slices of encoded non-realtime video data content in a predetermined order; and

a re-timestamp unit coupled to the remultiplexer and configured to provide timestamps to be applied to the transport packets in order to synchronize the realtime and non-realtime content of said IPG.

2.   (Previously presented) The apparatus of claim 1, where the apparatus is located within a head-end of a cable distribution system.

3.   (Previously presented) The apparatus of claim 1, further comprising:

a clock unit configured to provide a clock signal to the re-timestamp unit and to generate a clock stream to be transmitted along with the transport stream to a plurality of terminals.

4.   (Previously presented) The apparatus of claim 1, further comprising:

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a rate control unit configured to determine an encoding rate for the non-realtime content and to provide the determined encoding rate for the non-realtime content to the non-realtime encoder.

5. (Previously presented) The apparatus of claim 4, where encoding rate for the non-realtime content is determined based at least in part on an output rate of the transport stream.

6 (Previously presented) The apparatus of claim 4, where the rate control unit determines an encoding rate for the realtime content based at least in part on an output rate of the transport stream.

7. (Previously presented) The apparatus of claim 1, wherein the realtime content includes video and audio contents.

8. (Previously presented) The apparatus of claim 1, wherein the non-realtime content includes guide data.

9. (Previously presented) The apparatus of claim 7, wherein the realtime encoder includes

a video encoder configured to encode the realtime video content, and

an audio encoder configured to encode the realtime audio content.

10. (Previously presented) The apparatus of claim 5, wherein the encoding rate for the non-realtime content is further determined based on a maximum bit rate anticipated for the encoded realtime content.

11. (Previously presented) The apparatus of claim 1, wherein the timestamps provided by the re-timestamp unit replace timestamps generated by the realtime and non-realtime encoders.

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12.   Canceled.

13.   (Previously presented) The apparatus of claim 1, wherein realtime and non-realtime contents intended to be displayed in a single frame are re-timestamped by the re-timestamp unit for synchronization such that the contents are decoded and presented in the same frame.

14.   (Currently Amended) A method for encoding realtime and non-realtime ~~contents~~ content of an interactive program guide (IPG), comprising:

encoding realtime content to generate encoded realtime content slices;

encoding non-realtime content to generate encoded non-realtime content slices;

combining slices of encoded realtime content with slices of encoded non-realtime content, wherein the encoded realtime content and non-realtime content are combined in a predetermined order;

repacketizing the combined encoded realtime content slices and the encoded non-realtime content slices into transport packets, wherein the repacketizing is based on the combined slices of encoded realtime and non-realtime contents; and

re-timestamping the transport packets with new timestamps in order to synchronize the realtime and non-realtime content of the IPG.

15.   (Previously presented) The method of claim 14, further comprising:
generating the new timestamps based on a common clock signal.

16.   (Previously presented) The method of claim 14, further comprising:
controlling a bit rate for the encoded non-realtime content based in part on a bit rate for the transport stream.

17.   (Previously presented) The method of claim 16, wherein the bit rate for the encoded non-realtime content is further based on a maximum bit rate anticipated for the encoded realtime content.

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18. (Previously presented) The method of claim 16, further comprising:

allocating the bit rate for the encoded non-realtime content among a plurality of pages of non-realtime content.

19. Canceled.

20. Canceled.

21. (Previously presented) The apparatus of claim 1 wherein said non-realtime content comprises guide page information and said realtime content comprises video and audio information.

22. (New) A method for an interactive program guide (IPG) having a realtime video portion and a non-realtime guide graphics portion, comprising:

encoding the realtime video portion by dividing the video portion into slices and encoding each video portion slice;

encoding the non-realtime graphics portion to produce a plurality of encoded non-realtime graphics slices by dividing the guide graphics portion into slices and encoding each guide graphics portion slice;

assigning packet identifiers to the realtime video portion slices and the non-realtime guide graphics portion slices, wherein said assigning step assigns a different packet identifier to each guide graphics slice that is part of a different guide graphic, and assigns a common packet identifier to all the common realtime video portion slices;

combining encoded realtime video portion slices with encoded non-realtime graphic portion slices, wherein the encoded realtime video portion slices and non-realtime graphic portion slices are combined in a predetermined order;

repacketizing the combined encoded realtime video portion slices and the encoded non-realtime graphic portion slices into transport packets;

re-timestamping the transport packets with new timestamps in order to synchronize the realtime video portion and non-realtime graphic portion of the IPG; and

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placing the encoded realtime video portion slices and non-realtime graphic

portion slices into a bitstream for transmission.

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